

Claims:

1. A moveable bumper arrangement, comprising:

a) an elongated bumper member;

b) an end bumper member; and

5 c) a mechanism coupled to the end bumper member that allows substantially translational movement of the end bumper member with respect to the elongated bumper member from a first position where the end bumper member is positioned at an end of the elongated bumper member to a
10 second position where the end bumper member is spaced apart from the elongated bumper member.

2. The bumper arrangement of claim 1 wherein the mechanism allows the end bumper member to be rotated with respect to
15 the elongated bumper member when the end bumper member is spaced apart from the elongated bumper member.

3. The bumper arrangement of claim 1 wherein the elongated bumper member and the end bumper member are connected by a
20 detachable connection in the first position and movement to the second position detaches the detachable connection.

4. The bumper arrangement of claim 3 wherein the mechanism

allows the end bumper member to rotate with respect to the elongated bumper member when the end bumper member is detached from the elongated bumper member.

5 5. The bumper arrangement of claim 3 wherein the detachable connection comprises a latching projection extending from the end bumper member and a latching recess of the elongated bumper member that accepts the latching projection, wherein the end bumper member is latched to
10 the elongated bumper member when the latching projection is latched to the latching recess.

 6. The bumper arrangement of claim 3 wherein the end bumper member is simultaneously rotatable and linearly
15 movable with respect to the elongated bumper member when the end bumper member is detached from the elongated bumper member.

 7. A vehicle including a moveable bumper arrangement,
20 comprising:

- a) a vehicle component;
- b) a mechanism attached to the vehicle component; and
- c) a bumper member connected to the vehicle component

by the mechanism, the mechanism allows substantially translational movement of the bumper member with respect to the vehicle component along a portion of a path of travel allowed by the mechanism.

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8. The vehicle of claim 7 wherein the bumper member is an end bumper member.

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9. The vehicle of claim 8 wherein the substantially translational movement of the end bumper member separates the end bumper member from an elongated center bumper member.

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10. The vehicle of claim 9 wherein the mechanism allows rotational movement of the end bumper member with respect to the vehicle component after the end bumper member is separated from the elongated bumper member.

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11. The vehicle of claim 7 further comprising a hood that is separately movable from the bumper member.

12. The vehicle of claim 7 wherein the mechanism allows relative rotational movement of the bumper member with

respect to the vehicle component.

13. The vehicle of claim 12 wherein an axis of rotation of the bumper member is substantially parallel to an axis of a vehicle wheel.

14. The vehicle of claim 9 wherein the mechanism allows both relative translational and rotational movement of the end bumper member component when the end bumper member is separated from the center bumper member.

15. The vehicle of claim 7 further comprising a clamp arrangement for clamping the bumper member in a normal position.

16. The vehicle of claim 7 wherein the bumper member is an end bumper member and the bumper arrangement further comprises a detachable connection between the end bumper member and a center bumper member.

17. The vehicle of claim 16 wherein the detachable connection comprises a latching projection extending from the end bumper member and a latching recess of the center

bumper member that accepts the latching projection,
wherein the end bumper member is latched to said center
bumper member when the latching projection is latched to
the latching recess.

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18. The vehicle of claim 16 wherein the substantially
translational movement of the end bumper member detaches
the end bumper from the center bumper member.

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19. The vehicle of claim 18 wherein the mechanism allows
the end bumper member to be rotated after the end bumper
member is detached from the center bumper member.

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20. The vehicle of claim 7 further comprising a handle
coupled to the mechanism, wherein movement of the handle
allows movement of the bumper member along the path of
travel.

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21. The vehicle of claim 7 wherein the mechanism includes
a first mechanism member that cooperates with a second
mechanism member such that the first mechanism member is
rotatable and linearly movable with respect to the second
mechanism member.

22. The vehicle of claim 21 wherein the first and second mechanism members include cooperating arcuate surfaces.

23. The vehicle of claim 18 wherein the mechanism allows simultaneous rotational and translational movement of the end bumper member after the end bumper member is detached from the center bumper member.

24. The vehicle of claim 21 wherein a pin extends from the first mechanism member and a slot is defined in the second mechanism member, wherein movement of the pin in the slot defines a portion of an allowed path of travel.

25. In a vehicle, a moveable bumper arrangement comprising:

a) a mechanism supported by a vehicle component; and
b) an end bumper member connected to the vehicle by the mechanism that allows translational and rotational movement of the end bumper member with respect to the vehicle.

26. The moveable bumper arrangement of claim 25 wherein the translational movement separates the end bumper member

from a center bumper member and the rotational movement is inhibited before the end bumper member is separated from the center bumper member.

5 27. The bumper arrangement of claim 25 further comprising a clamp arrangement for clamping the end bumper member in a normal position.

10 28. The bumper arrangement of claim 25 further comprising a detachable connection between the end bumper member and a center bumper member.

15 29. The bumper arrangement of claim 25 wherein the detachable connection comprises a latching projection extending from the end bumper member and a latching recess of a center bumper member that accepts the latching projection.

20 30. The bumper arrangement of claim 28 wherein the substantially translational movement of the end bumper member detaches the end bumper from the center bumper member.

31. The bumper arrangement of claim 28 wherein the mechanism allows the end bumper member to be rotated after the end bumper member is detached from the center bumper member.

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32. The bumper arrangement of claim 25 further comprising a handle coupled to the mechanism, wherein movement of the handle allows movement of the end bumper member.

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33. The bumper arrangement of claim 25 wherein mechanism includes a first mechanism member that cooperates with a second mechanism member such that the first mechanism member is rotatable and linearly movable with respect to the second mechanism member.

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34. The bumper arrangement of claim 33 wherein the first and second mechanism members include cooperating arcuate structures.

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35. The bumper arrangement of claim 28 wherein the mechanism allows simultaneous rotational and translational movement of the end bumper member with respect to the

center bumper member after the end bumper member is detached from the center bumper member.

36. The bumper arrangement of claim 33 wherein a pin extends from said first mechanism member and a slot is defined in said second mechanism member, wherein movement of said pin in said slot defines said path of travel.

37. In a vehicle, a bumper arrangement comprising:

a) a first mechanism member attached to a vehicle component;

b) a second mechanism member coupled to the first mechanism member by a coupling that allows movement of the second mechanism along a path of travel that includes a linear portion and a rotational portion; and

c) an end bumper member connected to the second mechanism member, the bumper member is translated and rotated with respect to the vehicle as the second mechanism member moves along the path of travel.

38. The bumper arrangement of claim 37 further comprising a detachable connection between the end bumper member and a center bumper member.

39. The bumper arrangement of claim 38 wherein said detachable connection comprises a latching projection extending from the end bumper member and a latching recess of the center bumper member that accepts the latching projection.

40. A method of moving a first bumper member with respect to a second bumper member, comprising: moving the first bumper member with respect to the second bumper member along a path of travel that includes a linear portion allowed by a mechanism that connects the first bumper member and a vehicle component.

41. The method of claim 40 wherein moving the first bumper member comprises pulling the first bumper member away from the second bumper member and rotating the first bumper member with respect to the second bumper member.

42. The method of claim 40 further comprising detaching the first bumper member from the second bumper member.

43. The method of claim 42 wherein translational movement of the first bumper member detaches the first bumper member from the second bumper member.

5 44. The method of claim 43 wherein the first bumper member is rotated with respect to the second bumper member after the first bumper member is detached from the second bumper member.

10 45. The method of claim 40 further comprising releasing a clamp arrangement that holds the bumper member in a normal position.

15 46. The method of claim 42 wherein the detaching a connection comprises unlatching a projection from a latching recess.

 47. The method of claim 40 further releasing a latch arrangement to allow movement along said path of travel.

20 48. The method of claim 42 wherein the first bumper member is simultaneously rotated and translated with

respect to the second bumper member after the first bumper member is detached from the second bumper member.

49. A method of moving a vehicle bumper, comprising:

- 5 a) separating a first bumper member connected to the vehicle from a second bumper member; and
- b) rotating the first bumper member with respect to the second bumper member.

10 50. The method of claim 49 wherein the first bumper member is rotated about an axis that is parallel to a an axis of a vehicle wheel.

15 51. The method of claim 42 wherein separating the first bumper member from the second bumper member comprises detaching a connection between the first bumper member and a second bumper member and moving the first bumper member away from the second bumper member.

20 52. A method of moving a first bumper member with respect to a second bumper member, comprising:

- a) releasing a detachable connection to disconnect a first bumper member from a second bumper member; and

b) moving the first bumper member along a path of travel allowed by a mechanism that connects the first bumper member to the vehicle to place the first bumper member in a desired position.